



FIG. 3.

usque duplo longioribus (v. v., v. s., v. in form.). FIG. 3 MASSACHUSETTS: in brackish water, Nonamesset Island, Gosnold, *E. T. Rose*, 21 June 1936 (TYPE in Herb. Francis Drouet; ISOTYPES: *F, T, W, Y*).

This new form was found in a brackish pond in company with *Lyngbya aestuarii* (Mert.) Liebm. ex Gom. and a variety of different Chroococcales, bacteria, and protozoa. It appears to be most closely related to *S. laxissima* G. S. West (Journ. Linn. Soc. Bot. **38**: 178. 1907) and *S. laxa* G. M. Smith (Bull. Torr. Bot. Club **43**: 481. 1916), but the measurements of the trichomes of *S. stagnicola* differ widely from those of the two latter species. When unstained, the living trichomes appear unseptate; but when stained with a dilute aqueous solution of neutral red, 'septations' become evident. The 'cells' thus produced are subquadrate or longer than wide. Individuals are not abundant in the type material and only collection.

EXPLANATION OF FIGURES

FIG. 1. *OSCILLATORIA LUTEOLA* sp. nov., showing typical apical portions of three trichomes (drawn from the type material, $\times 333$).

FIG. 2. *O. GRANULATA* Gardn., showing typical apical portions of two trichomes (the larger drawn from *Drouet 1126A*, from Massachusetts; the smaller from the type material from Puerto Rico, $\times 333$).

FIG. 3. A trichome of *SPIRULINA STAGNICOLA* sp. nov., $\times 333$.

OSBORN BOTANICAL LABORATORY OF YALE UNIVERSITY AND
DEPARTMENT OF BOTANY, MARINE BIOLOGICAL LABORATORY

SOME WESTERN LEPIDIUMS IN MICHIGAN.—On June 20 and 27, 1928, Mr. Bruno Gladewitz, of Detroit, Mich., and I took botanical outings along the M. C. railroad tracks from Ypsilanti to Dexter or nearly to that place. A number of interesting plants were found. At Ypsilanti, June 20, no. 8218, was a large coarse plant that had the general appearance of *L. virginicum* but different leaves and fruit; the pubescence is also of a different character. It proved to be *L. montanum* var. *Eastwoodiae* (Wooton) C. L. Hitchcock. A similar plant with differently shaped fruit, collected at Ann Arbor on the 27th, no. 8221, is *Lepidium montanum* var. *alyssoides* (A. Gray) M. E. Jones. These plants were collected along the railroad right of way and very evidently are wanderers from the West by way of railway freight lines, much in the same way as *Lepidium perfoliatum* L., no.

5452, May 30, 1920 and *Hymenophyssa pubescens* C. A. Meyer, no. 5254, May 30, 1920, both along the M. C. railway at Ypsilanti. These last two were first found by Prof. B. A. Walpole. On June 8th, 1932, Mr. Gladewitz and I found along roadsides and banks of streams at Bell Branch in Wayne Co., Mich., a plant that comes nearest to *L. densiflorum* Schrad. var. *Bourgeauanum* (Thell.) C. L. Hitchc., according to Prof. C. L. Hitchcock. The variety occurs in the Rocky Mountain region to Alaska.—O. A. FARWELL, Lake Linden, Mich.

CONTRIBUTIONS FROM THE GRAY HERBARIUM OF
HARVARD UNIVERSITY—NO. CXVIII

I. NOTES ON SILPHIUM

LILY M. PERRY

The genus *Silphium* ranging from the mid-Atlantic and southern States to the western prairie-region is most diverse in the South. Here the species are more numerous and, owing to the high variability of the characters, specific lines are rather difficult to determine. In an endeavor to order up the herbarium material, Gray's treatment of the genus, Syn. Fl. N. A. i.² 240–242, 449 (1886), has been most helpful. Small's revisions, Fl. Se. U. S. 1240–1245 (1903) and Man. 1408–1415 (1933), have also been useful in evaluating the more recent literature.

I am indebted to Dr. H. A. Gleason of the New York Botanical Garden, Dr. W. R. Maxon of the United States National Herbarium and Dr. H. K. Svenson of the Brooklyn Botanic Garden for the privilege of examining various types and other specimens in their herbaria.

As in all genera of the *Compositae*, the heads afford the best determinative features, yet these are not too definite. The achenes are rather inconstant owing to the somewhat fickle development of the wing-apices; truncate achenes, with teeth lacking and wing-margins scarcely 0.5 mm. wide, were found in three species and in others a similar tendency was observed. Immature achenes have practically no diagnostic value in critical determinations, yet good mature ones are lacking in too many specimens. Pubescence of the chaff-tips is helpful in separating groups and in combination with other characters it may be useful in delimiting species. The ray-flowers of herbarium material are often immature or poorly pressed. Involucral bracts are